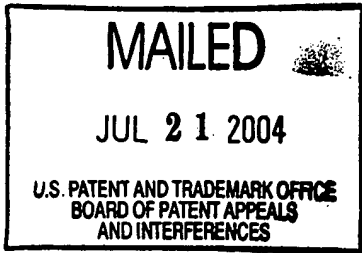


The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 16

UNITED STATES PATENT AND TRADEMARK OFFICE



BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BARRY C. MUFFOLETTO
and ASHISH SHAH

Appeal No. 2004-1624
Application No. 09/628,174

ON BRIEF

Before PAK, WARREN, and TIMM, Administrative Patent Judges.
PAK, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 6 and 7, which are all of the claims pending in the present application.

APPEALED SUBJECT MATTER

According to the appellants (Brief, page 4), "[c]laims 6 and 7 can be grouped together." Therefore, for purposes of this appeal, we select claim 6 as representative of the claims on appeal and decide the examiner's rejection below based on this claim alone

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consistent with 37 CFR § 1.192(c)(7)(2003). Claim 6 is reproduced below:

Claim 6. A substrate of improved electrical conductivity wherein said substrate is selected from the group consisting of Group IVA, Group VA and Group VIA metals, aluminum, manganese, nickel, copper and stainless steel and said substrate having a native oxide layer on a surface thereof, and wherein said substrate has deposited thereon by low temperature arc vapor deposition metal selected from the group consisting of Group IA and Group VIIIA metals for increasing the electrical conductivity of said native oxide layer.

According to the appellants (Specification, pages 2 and 3), the claimed Group VIIIA metals include Fe, Ru, Os, Co, Rh, Ir, Ni, Pd and Pt; the claimed Group IA metals include Cu, Ag and Au; the claimed Group IVA metals include Ti, Zr and Hf; the claimed Group VA metals include V, Nb and Ta; and the claimed Group VIA metals include Cr, Mo and W. The operation conditions (e.g., temperature condition) of the claimed low temperature arc vapor deposition process are not described in the specification. See the specification in its entirety.

REJECTION

Claims 6 and 7 stand rejected under 35 U.S.C. § 102(b) as anticipated by the disclosure of U.S. Patent 5,098,485 issued to Evans on March 24, 1992 (hereinafter referred to as "Evans").

OPINION

We have carefully reviewed the claims, specification and applied prior art references, including all of the arguments advanced by the examiner and the appellants in support of their respective positions. This review has led us to conclude that the examiner's Section 102(b) rejection is well founded. Accordingly, we affirm the examiner's Section 102(b) rejection for essentially those reasons set forth in the Answer and below.

The claimed subject matter is directed to "[a] substrate of improved electrical conductivity" defined at least in part by a process by which it is made. See claim 6. In other words, the claimed substrate is further limited by process limitations, i.e., defined by a product-by-process format. *Id.* Thus, the focus of a patentability inquiry is on the product itself, not a process by which it is made. See also *In re Thorpe*, 777 F.2d 695, 697, 227 USPQ2d 964, 965-66 (Fed. Cir. 1985) and the cases cited therein. "If the product in a product-by-process claim is **the same as or obvious** from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process (emphasis added)." *Thorpe*, 777 F.2d at 697, 227 USPQ2d at 965-66; See also *In re Pilkington*, 411 F.2d 1345, 1348, 162 USPQ 145, 147 (CCPA 1969) ("The addition of a method step in a product claim which

product is not patentably distinguishable from the prior art, cannot impart patentability to the old product."). However, this does not mean that process limitations in a product-by-process claim can be ignored in all circumstances. They must be considered if they contribute to the compositional and/or structural attributes of the claimed substrate. As explained in *In re Luck*, 476 F.2d 650, 653, 177 USPQ 523, 525 (CCPA 1973):

As for the method of application, it is well established that product claims may include process steps to wholly or partially define the claimed product. See *In re Brown* [459 F.2d 531, 173 USPQ 685 (CCPA 1972)], and the cases cited therein. To the extent these process limitations distinguish the **product** over the prior art, they must be given the same consideration as traditional **product** characteristics. (Emphasis added.)

In many instances, however, it is difficult to ascertain whether process limitations in a product-process claim contribute to the characteristics of the claimed substrate. Recognizing this difficulty, the court in *In re Brown*¹ (relied on by *Luck*) provides guidance for establishing a *prima facie* case of unpatentability with respect to a product-by-process claim as follows:

It must be admitted, however, that the lack of physical description in a product by-process claim makes determination of the patentability of the claim more difficult... We are therefore of the opinion that when the prior art discloses a product which reasonably

¹ *Id* at 535, 173 USPQ at 688.

appears to be either identical with or only slightly different than a product claimed in a product-by-process claim, a rejection based alternatively on either section 102 or 103 of the statute is eminently fair and acceptable.²

Here, there is no dispute that Evans teaches forming a metal substrate of "improved electrical conductivity" by depositing the claimed metal into the claimed metal substrate having a native oxide film to convert the native oxide layer from an electrical insulator to an electrical conductor. Compare the Answer in its entirety with the Brief and the Reply Brief in their entirety. Specifically, we note that Evans teaches applying a solution containing a foreign atom and/or ion, such as preferred palladium, on a metal substrate having a formed native oxide, such as stainless steel, tantalum or titanium substrate, and heat-treating the palladium applied substrate at a temperature of 500 to 650 °C for a period of 30 seconds to 1 minute to convert "the native oxide film from an electrical insulator to an electrical conductor." See column 2, lines 30-34 and 54-59 and column 3, lines 6-8 and 44-50.

² See also *In re Fessman*, 489 F.2d 742, 744, 180 USPQ 324, 326 (CCPA 1974) ("In *Brown*, the court was in effect saying that the Patent Office bears a lesser burden of proof in making out a case of prima facie obviousness for [case of unpatentability] product-by-process claims because of their peculiar nature than would be the case when a product is claimed in the more conventional fashion.")

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The resulting substrate described in Evans, like the appellants' substrate, is useful as an electrode for capacitor elements. Compare Evans, column 3, lines 9-13 and column 5, lines 10-20, with, e.g., the appellants' specification, page 7. Thus, it is reasonable to conclude that the claimed substrate is either identical or slightly different from the substrate described in Evans even though Evans employs a deposition technique different from that claimed.

Under this circumstance, the burden is shifted to the appellants to show that the claimed process limitation renders the claimed **substrate** patentably distinct from the substrate described in Evans. *In re Brown*, supra. Nevertheless, the appellants merely assert (Reply Brief, page 3) that:

The substrate, oxide and applied ions of the Evans product have been heated at an elevated temperature for a time sufficient to incorporate the ions into the oxide layer. On the other hand, the product of applicants' invention has not been heated to such elevated temperature for such required time. It is reasonable to conclude that persons skilled in the art would consider that a product which has not been heated to such elevated temperature for such required time will be structurally different from one that has been so heated for such time.

The appellants not only do not indicate that the claimed process limitation in question imparts **patentable** structural differences, but also do not refer to any objective evidence supporting the

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alleged structural differences. The appellants' mere arguments cannot negate the fact that the substrate described in Evans is made of the same components as that claimed and has the same property and utility (electrically conductive property and capacitor electrode utility) as that claimed. See *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984) (Mere arguments in the Brief or conclusory statements in the specification cannot take the place of objective evidence.); See also *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972).

Thus, having considered all of the evidence and the arguments of record, we determine that the examiner has established a *prima facie* case of unpatentability which has not been persuasively rebutted by the appellants. Accordingly, we affirm the examiner's decision rejecting claims 6 and 7 under 35 U.S.C. § 102(b).

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

AFFIDAVIT


CHUNG K. PAK

CHUNG K PAK
Administrative Patent Judge

Robert F. Johnson
ROBERT F. JOHNSON

CHARLES F. WARREN
Administrative Patent Judge

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